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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,102	04/13/2004	Yonghe Liu	TI-37140	4525

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EXAMINER	
KANGARLOO, RAMTIN	
ART UNIT	**PAPER NUMBER**
2609	

NOTIFICATION DATE	DELIVERY MODE
09/21/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/823,102	LIU ET AL.	
	Examiner	Art Unit	
	Ramtin Kangarloo	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-20* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/13/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 8 -10, 14 -16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Kim (US Patent Application Publication No 2004/0136390) in view Ho (US Patent Application Publication No 2002/0120740).

Regarding **Claims 1 and 10**, Kim disclosed an arrangement for avoiding contention on a communication medium among devices including at least a transmitter and a receiver, the arrangement comprising: a first portion configured to instruct the receiver to indicate that the communication medium is busy for a time period substantially longer than an actual frame transmission period being sent from the transmitter to the receiver (see Page. 1, Paragraph [0007]). Kim does not explicitly disclose a second portion configured to prohibit the receiver from transmitting on the communication medium during the time period. Ho teaches configured to prohibit the receiver from transmitting on the communication medium during the time period (see Page 7, Paragraph [0077]).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount receiver control taught by Ho onto the

contention control system as shown in Kim, in order to control collision so that the systems become well organized.

Regarding **Claim 2**, Kim and Ho disclose all of the limitations as applied to claim 1. Further, Kim discloses the first portion is embodied in the transmitter; and the second portion is embodied in the receiver. It is inherent that both NAV system and mobile terminal include transmitter and receiver.

Regarding claims **8, 14 and 20,** the system of Kim and Ho discloses the claimed invention except to include a length of a network allocation vector (NAV) to perform virtual carrier sense (VCS) function. It would have been an obvious matter of design choice using (NAV) to perform (VCS) since applicant has not disclosed that (VCS) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well without this configuration.

Regarding claims **9 and 15,** the system of Kim and Ho discloses the claimed invention except to include a length of a network allocation vector (NAV) plus a time needed to transmit the given frame's payload to perform virtual carrier sense (VCS) function. It would have been an obvious matter of design choice using (NAV) to perform (VCS) since applicant has not disclosed that (VCS) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well without this configuration.

Regarding **claim 16,** Kim disclosed a network including a communication medium on which contention is to be avoided, the network comprising: a transmitting element, configured to transmit on the communication medium, a frame that includes an instruction that the communication medium is busy for a time period substantially longer than an actual transmission time of the frame that includes the instruction (see Page 1, Paragraph [0007]). Kim does not explicitly disclose about receiving element, configured to receive the frame that includes the instruction, and, in response to the instruction, to refrain from transmitting on the communication medium during the time period, so as to avoid the contention on the communication medium. Ho teaches a receiving element, configured to receive the frame that includes the instruction, and, in response to the instruction, to refrain from transmitting on the communication medium during the time period, so as to avoid the contention on the communication medium (see Page 7, Paragraph [0077]).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount receiver control taught by Ho onto the contention control system as shown in Kim, in order to in order to control collision so that the systems become well organized.

Regarding **claim 18,** Kim and Ho disclose all of the limitations as applied to claim 1. Furthermore, Ho teaches the communication medium is a wireless communication medium (Abstract).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount wireless communication medium taught by Ho onto the contention control system as shown in Kim, in order to improve the speed and accuracy of transmission so that the system become cost efficient.

3. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US Patent Application Publication No 2004/0136390) In view of Ho (US Patent Application Publication No 2002/0120740) as applied to claim 1 and 16 above, and further in view of Picone (US Patent No.4815134).

Regarding **Claim 3,** Kim and Ho disclose all of the limitations as applied to claim 1. Kim and Ho do not specifically disclose capability of transmitter. Picone teaches the transmitter has a much higher throughput capability than the receiver (See col. 4, Lines 9-11).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Picone into the contention control system as show in the system of Kim and Ho in order to forward more data so that the systems run quicker.

Regarding **Claim 17,** Kim and Ho disclose all of the limitations as applied to claim 1. Kim and Ho do not specifically disclose capability of transmitter. Picone teaches the transmitter has a much higher throughput capability than the receiver (See col. 4, Lines 9-11).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Picone into the contention control system as show in the system of Kim and Ho in order to forward more data so that the systems run quicker.

4. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US Patent Application Publication No 2004/0136390) In view of Ho (US Patent Application Publication No 2002/0120740) as applied to claim 1 and 10 above, and further in view of Mason (US Patent Application Publication No.2003/0063598).

Regarding **Claims 4 and 11,** Kim and Ho disclose all of the limitations as applied to claim 1. Kim and Ho do not specifically disclose protocol data unit. Mason teaches the first portion constitutes a field within a physical layer (PHY) protocol data unit (PDU), the field specifying duration of the time period (see Page. 4, Paragraph [0045]).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount a physical layer (PHY) and protocol data unit (PDU), taught by Mason into the contention control system as show in

the system of Kim and Ho in order establish better connection so that the systems run more efficient.

5. Claims 5, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US Patent Application Publication No 2004/0136390) in view of Ho (US Patent Application Publication No 2002/0120740) as applied to claim 1,10 and 16 above, and further in view of Narasimhan (US Patent No.7016651).

Regarding **claims 5 and 12**, Kim and Ho disclose all of the limitations as applied to claim 1 and 10. Kim and Ho do not specifically disclose about physical layer convergence protocol frame. Narasimhan teaches the first portion includes a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver (See col. 4, Lines 11-19).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount physical layer convergence protocol taught by Narasimhan into the contention control system as show in the system of Kim and Ho in order to improve the accuracy of transmission so that the systems become cost efficient.

Regarding **claims 19**, Kim and Ho disclose all of the limitations as applied to claim16. Kim and Ho do not specifically disclose about physical layer

convergence protocol frame. Narasimhan teaches the instruction is a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network (See col. 4, Lines 11-19).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount physical layer convergence protocol taught by Narasimhan into the contention control system as show in the system of Kim and Ho in order to improve the accuracy of transmission so that the systems become cost efficient.

6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US Patent Application Publication No 2004/0136390) in view of Ho (US Patent Application Publication No 2002/0120740) as applied to claim 1 and 10 above, and further in view of Narasimhan (US Patent No.7016651) as applied to claim 5 and 12 above, and further in view of Chen (US Patent Application Publication No. 20050025143).

Regarding **claims 6 and 13,** Kim, Ho and Narasimhan disclose all of the limitations as applied to claim 1, 5, 10 and 12. Kim, Ho and Narasimhan do not specifically disclose about SIGNAL1 and SIGNAL2. Chen teaches legacy receivers, having a slower throughput capability than a throughput capability of

the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field (see Page 2, Paragraph [0038]).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate signal verification taught by Chen into the contention control system as show in the system of Kim, Ho and Narasimhan in order to establish better connection so that the systems run more efficient.

Allowable Subject Matter

7. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Kim (US Patent Application Publication No 2004/0136390) and Ho (US Patent Application Publication No 2002/0120740) teach a contention control system for a shared communication medium wherein a communication channel may be shared by a plurality of wireless networks. The methods presented also include mechanisms for the receiver to indicate that the communication medium is busy or not. However prior art of record fail to teach the first portion sets the time period equal to a virtual clear channel assessment (VCCA) time period that equals a sum of: a content of a Duration field in frame header of the frame being transmitted; eight times a quotient of an actual length,

in octets, of the frame being transmitted, and a transmission rate, in Mbps, of the frame being transmitted; an extended inter frame space; and a distributed inter frame space.

Conclusion

8. Any response to this Office Action should be **faxed** to (571) 273-8300 **or Mailed to :**

Commissioner for Patents,
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Hand-delivered responses should be brought to

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Randolph Building
401 Dulany Street
Alexandria, VA 22314

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramtin Kangarloo whose telephone number

is (571) 270-3452. The examiner can normally be reached on Monday to Thursday 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramtin Kangarloo
Examiner Art Unit 2609
September 6, 2007

BENNY Q. TIEU
SPE/TRAINER